

**TANF Data Warehouse
Overview**

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I. Executive Summary

- The TANF Data Warehouse project was initiated in 1995-1996 to meet the federal reporting requirements of the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) passed by Congress in 1996;
- PRWORA established the Temporary Assistance to Needy Families (TANF) program and was designed to help needy families reduce their dependence on welfare and move toward economic independence;
- The TANF block grant program provides funding to TANF programs that provide supportive services to needy families; with the goal of moving recipients into work and turning welfare into a program of temporary assistance;
- To meet the PRWORA reporting requirements, DFC must collect data about clients and services from the supportive TANF programs;
- The TANF Data Warehouse collects the appropriate data from the source systems, develops process to match clients across the source systems, and reports the TANF benefits, services, and financial data to HHS and FSSA management;
- The Data Warehouse supports the TANF High Performance Bonus Award reporting, an incentive program established by HHS in 1999, designed to reward States based on their performance in various categories. Indiana has won a High Performance Bonus for the past 5 years, for a total award of over \$40 Million;
- In addition to the standard reporting, the Data Warehouse develops special reports and queries for FSSA and also supports audits of program data;
- TANF has operated on extensions since 2003. In 2005, it is expected that Congress will pass new rules. The TANF Data Warehouse will be responsible for supporting the State in the implementation and compliance of these rules;
- The TANF Data Warehouse is staffed by 1 State Project Manager and 15 contractors provided by Keane Inc. and RCR Technology Corporation;
- In State fiscal year 2005, the TANF Data Warehouse budget allocation is \$4.8M;
- 93% of the budget is from the TANF Block Grant federal fund, 5% is from the Child Care Development Fund, 1% is from Child Welfare and 1% is from Child Support;
- The project assists with the FSSA Enterprise Data Warehouse initiatives. The infrastructure that has been built for TANF is a best-of-breed architecture that can expand to support the FSSA Enterprise Data Warehouse strategy.

II. Description

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) passed by Congress in 1996, created the TANF program, a block grant, time-limited program which replaced the entitlement program, Aid to Families with Dependent Children (AFDC) and the Job Opportunities and Basic Skills Training (JOBS) program. TANF is designed to help needy families reduce their dependence on welfare and move toward economic independence by providing time-limited cash assistance along with supportive services and training. The U.S. Dept. of Health and Human Services (HHS) is responsible for program oversight and establishing rules and regulations related to TANF and the use of block grant dollars. The rules specify the types of reports that states are required to provide to HHS quarterly. To meet the federal requirements, DFC had to collect data from all programs using funds from the TANF Block Grant to provide benefits and services to needy families.

The TANF Data Warehouse project was established to develop the data collection process for DFC. Due to the unique requirements of the PRWORA reporting, a custom application was developed. To facilitate the transfer of funds from the TANF Block Grant to the TANF programs, the warehouse team works with the FSSA TANF Policy staff and the Budget Finance Director and staff to identify target programs. Once the target program is identified, the data warehouse staff meets with the program area to evaluate data and design appropriate interfaces. The technical staff collects the source system data, matches clients across source systems, identifies qualifying persons and/or families, and reports the TANF benefits, services, and financial data to HHS, the Finance Director, and FSSA management. Currently, the Data Warehouse contains over 8 years of historical data.

Over time, the historical data has become an important asset within the agency. The project supports special requests for data and assist with audits of program data and fraud detection.

Another unique feature of the Data Warehouse is the Master Client Index. Many of the data warehouse source systems do not have a unique identifier, such as social security number. The Warehouse project establishes a unique cross system client identifier that is used to locate clients receiving multiple TANF benefits and services. This unique ID is derived during a matching process where demographic information is compared and statistical analysis is applied to find known clients and new clients. As new clients are determined, a new and unique client ID is assigned. A file of all unique clients is maintained during the matching process, and includes the client ID and significant demographic details.

The Master Client Index will provide the framework for further integration within the agency.

III. History (1997 - 1999)

A. 1997 Emergency TANF

In the second quarter of 1997, FSSA established the Indiana Interim Reporting System for Welfare Reform to meet the U.S. Department of Health and Human Services (HHS) reporting requirements. HHS required quarterly reports from each State detailing the operation of their Emergency TANF Programs, including information necessary to calculate the State's work participation rates. To facilitate the Emergency TANF reporting requirements, a project team was established to gather data and produce the Emergency TANF reports.

The system began collecting data in July, 1997. Each month data was extracted from the source systems, matched to identify unique clients, transformed, and stored in the Welfare Reform Integrated Database (WRIDB). At the end of each reporting quarter, the report transmittal records were transmitted to the HHS Administration for Children & Families (ACF).

In 1997 only the four large legacy source systems provided sufficient demographic information to make the matching process viable. In the early years this process was outsourced to Vality Inc., Boston, MA. The systems processed at Vality were:

- **ICES** - Indiana Client Eligibility System;
- **ISETS** - Indiana Support Enforcement Tracking System;
- **ICWIS** - Indiana Child Welfare Information System;
- **AIM** - Advanced Information Management (Medicaid).

Other source systems did not have enough demographic information to be successfully included in the Vality match process, and were loaded using other techniques:

- **Reports & Statistics:**
 - ICC** - Impact Contract Claims
 - IAD** - FS and TANF Impact Service
- **Bureau of Child Development (BCD):**
 - CCDF** - Child Care Development Fund
 - SSBG** - Social Security Block Grant Fund

B. 1999 Final Regulations

Effective with data from October 1, 1999, HHS/ACF issued new rules reflecting new Federal, State, and Tribal relationships in the administration of welfare programs; with a new focus on moving recipients into work, program information, measurement, and performance. The project was renamed to the Welfare Reform Automation (WRA) project and continued to be responsible for meeting the HHS/ACF reporting requirements.

The final regulations required more data elements be gathered from the source systems and more complex analysis and interpretation of the source data to accurately generate the Federal reports.

By 1999 2 additional systems were processed by Vality and were assigned unique cross system Client Identifiers:

- **HFI** - Health Families Initiative
- **BCD** - Bureau of Child Development, both CCDF and SSBG

Other new sources provided supportive information:

- **Emergency Assistance (EA)**
- **Family Planning**
- **Fatherhood Initiative**
- **First Steps**
- **Gambling Addiction**
- **Indiana Family Planning (IFP)**
- **Low Income Home Energy Assistance (LIHEAP)**
- **Short-Term Empowerment Program (STEP)**
- **Summer Youth and Summer Youth Bonus**
- **TANF Total Supportive Services**
- **Vocational Rehabilitation (VR)**

In order to increase compliance with the requirements of the Final Regulations, HHS incorporated a series of penalties that States could incur against the TANF Block Grant State allotment. From 1999 – 2005 the penalties were:

Requirement	Minimum	Maximum
Satisfy work requirements	5%	20%
Comply with five-year limit on assistance	5%	
Reduce recipient grants for refusing to participate in work activities without good cause.	1%	5%
Maintain assistance when a single custodial parent with a child under six cannot obtain child care.	5%	
Submit required data reports	4%	
Comply with paternity establishment and child support enforcement requirements	5%	
Participate in the Income and Eligibility Verification System	2%	

The total penalty assessed against a state in given year may not exceed 25 percent of a state's block grant allotment.

C. TANF Reports:

Starting in 1999 the reformatted quarterly TANF reports for Final Regulations placed greater emphasis on completeness of data, cross validation of data within the family and revisions to the work participation requirements for TANF recipients.

Work participation requirements for TANF recipients increased significantly in 1999:

Requirement	1997	1999
Families in the state engaged in work activities	25%	50%
Two-parent families in the state engaged in work activities	75%	90%
Hours of participation in work activities	20	30
Hours of participation in work activities for two-parent families	35	55

Maintenance of Effort (MOE) expenditures were tracked to families and reported quarterly. Federal and State reports were generated for MOE expenditures.

D. Caseload Reduction Reports:

Caseload reduction credit reports offer States the opportunity to show how successful the state has been in moving clients from welfare to work. The report is based on the comparison between 1995 Aid to Families with Dependent Children (AFDC) caseload to current State-reported TANF and separate State program caseload data. If a state reduces its caseload, without restricting eligibility, it can receive a caseload reduction credit. This credit helps the State in achieving the required work participation rate.

The Data Warehouse produced the caseload reduction reports and the ensuing credit has ensured that the state was able to meet the work participation rates and avoid penalties.

E. High Performance Bonus Reports:

In 1998, HHS established the High Performance Bonus (HPB) to reward States that are the most successful in achieving the goals and purposes of the TANF program award. The award is based on a State's performance in the previous year and may not exceed five percent of a State's TANF grant. Indiana elected to participate in this competition and the project team developed the required processes and reports. Indiana received and award the first year and every thereafter. The four HPB goals are to:

- (1) provide assistance to needy families so that children may be cared for in their own homes or in the homes of relatives;
- (2) end the dependence of needy parents on government benefits by promoting job preparation, work, and marriage;
- (3) prevent and reduce the incidence of out-of-wedlock pregnancies and establish annual numerical goals for preventing and reducing the incidence of these pregnancies; and
- (4) encourage the formation and maintenance of two-parent families.

IV. Current Status (2000 - 2004)

The TANF Data Warehouse is fully implemented and is still operating under the 1999 Final Regulations. New TANF regulations were postponed until after the 2004 Presidential Election. Expectations are that new rules will be approved by Congress in March, 2005.

From 2000-2004, the following modifications were required to support TANF and PBR Reporting:

A. TANF Reports:

Previously Indiana was working on policies where the state imposed its own 24-month limit. With the expiration of that waiver, the State re-started tracking the federal 60-month clock.

In April 2001, Indiana began utilizing TANF block grant dollars to fund the Assisted Guardianship program administered by the Indiana Child Welfare Information System (ICWIS) system. This new program was incorporated in the TANF data warehouse and was added to the monthly and quarterly reports to FSSA and HHS.

In April 2002 the 60-month time limit began for all adult parents and caretakers receiving cash assistance in the ADCR and ADCI categories of TANF. New codes were also introduced relating to the implementation of the 60-month clock for individuals receiving TANF assistance.

B. Performance Bonus Reports:

On August 30, 2000, the Department of Health and Human Services published final regulations applicable to High Performance Bonuses to be awarded beginning in FY 2002. The rules were expanded to cover the State Children's Health Insurance Program (SCHIP) and instructions were provided for those States wishing to compete in this program. The warehouse implemented the new PBR Guidelines for FY 2002 and successfully reported Indiana's implementation of Hoosier Healthwise.

C. New Source Systems

Since 1999, the TANF Data Warehouse expanded and includes the following new source systems:

- **Assisted Guardianship (ICWIS)**
- **Children's CHOICE**
- **Earned Income Tax Credit (EITC)**
- **Individual Development Accounts (IDA)**
- **State Student Assist. Comm. IN (SSACI)**
- **Textbook Reimbursement**

The project was renamed to TANF Data Warehouse due to the large number of integrated data sources and the historical data contained in the databases. To manage the rapid growth, specialized data warehouse tools were added during 2000 and 2002.

D. Team/Resources

The TANF Data Warehouse is managed by a State project manager in conjunction with 2 contracts, Keane and RCR Technology. Keane provides the Project Management and technical support for the project and RCR is contracted to provide Decision Support and Quality Assurance for the project. The total team size is currently 15 FTE which is down from the historical 18.

E. Contracts

The Keane contract expires in May 2005 and the RCR contract expires in June 2005. The timing of the expirations is a risk for several reasons. The TANF reauthorization rules are expected to be published in March 2005. The changes to the rules will impact the majority of the Warehouse computer programs and processes. It would be difficult if not impossible for a new vendor to acquire enough experience with the programs and processes to make the required programming changes by the deadlines. Also, parallel testing of the new DataStage application may not be complete by May. A new vendor would have a big learning curve to complete this task and the additional cost to DFC for the transition of the task could be considerable. It is highly recommended that the people experienced with the programming should complete the testing and production implementation phases.

F. Technology

The warehouse uses DB2 on the State mainframe to store the central data repository. SQL Server databases are used for data marts that have been developed to support the varying levels of business intelligence reporting requirements. The following databases and software are used by the project:

- **Databases**

- **DB2 Version 7:** DB2 is maintained on the State's central mainframe and is used to store the Data Warehouse historical data.
- **Microsoft SQL Server 2000:** SQL Server is used to support some special processing requirements and to develop data marts to support web-based reporting requirements.

- **Web based reporting and analysis – Cognos Impromptu and PowerPlay**

This software enables clients to access the organized data in the TANF Data Warehouse. This tool enables business users to support their decisions by utilizing multidimensional analysis, reporting and monitoring capabilities.

- **Data Cleansing – Ascential QualityStage Software**

The QualityStage software is used to cleanse and integrate data from many disparate data sources by standardizing and uniquely identifying common clients through a rules based engine. The QualityStage software is the internal replacement for the Vality process mentioned earlier.

- **Extract Transform Load (ETL) Process – Ascential/DataStage**

The project is undergoing a transition at this time. The current ETL processes (Extract, Transform and Load) which are developed in COBOL on the mainframe are being migrated to the Ascential/DataStage tool.

The Ascential ETL software is a premier data movement tool in the Data Warehouse market place. This tool enables the TANF Data Warehouse to quickly incorporate new source data into organized information, so that the client has the quickest access to data.

- **Metadata Process – Ascential/MetaStage**

In addition, the MetaStage software is a repository that enables all definitions, business rules and special processing to be stored into the system for future reference and for data standardization across all source systems.

G. Achievements

The following is the value of the data in the warehouse to date:

- When the Data Warehouse was initiated in 1997 to meet federal reporting requirements Indiana was among the top 10 states to meet the federal reporting deadlines. Indiana continues to be a leader in meeting the federal reporting requirements, thus avoiding penalties of up to 25% of total TANF Block Grant Funds;
- Utilizing the TANF Data Warehouse, Indiana reports full volume data on all the TANF recipients, while some States choose to report on a sample basis. This allows Indiana to maximize the opportunities afforded within the PBR and caseload reduction areas;
- Since 1999 Indiana has consistently won High Performance Bonus awards based on the data prepared and submitted by the Data Warehouse project. The table below has the yearly breakdown of the award:

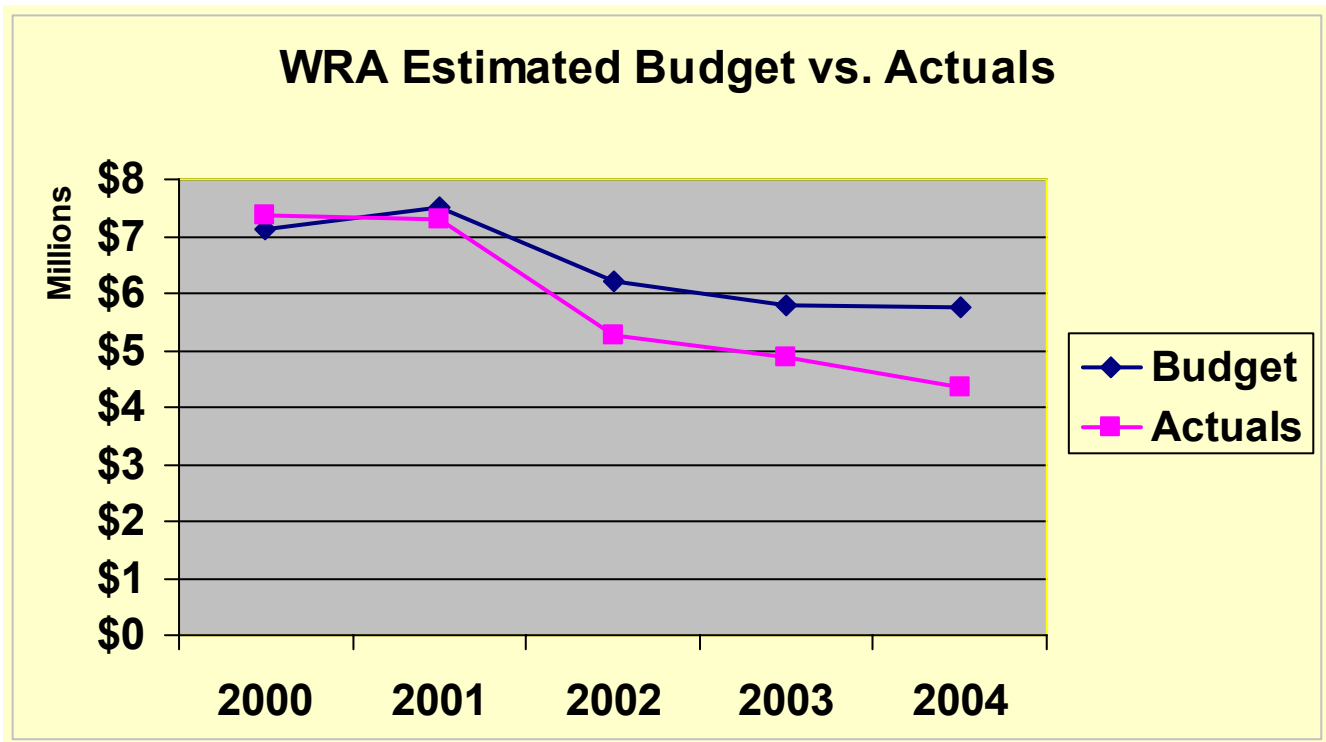
Federal Fiscal Year	Bonus Amount
1999	\$2,000,440
2000*	\$10,339,955
2001	\$9,104,087
2002*	\$10,339,955
2003*	\$10,339,955
Total to date	\$42,124,392

* Bonus amounts capped at 5% of the State's family assistance grant for the year.

- TANF Data Warehouse processing of the FSSA Financial Department's claims allowed DFC to transfer approximately \$113 million last year from the TANF Block Grant to the supportive Maintenance of Effort (MOE) programs, with a 4 years total of \$440 million;
- The Warehouse also tracks and validates data for Federal reimbursement from the TANF Block Grant for programs such as: Healthy Families - \$31 Million, Emergency Assistance - \$8 Million, Vocational Rehabilitation Services - \$1.7 Million, Impact - \$11 Million and Child Care - \$30 Million. (FFY 2002);
- The Text Book Reimbursement program provided TANF Block Grant funds of approximately \$17 million per year for the past 3 years to the Department of Education by matching TANF Recipients to State textbook payments.

V. Budget

In state fiscal year 2005, the TANF Data Warehouse budget is \$4.8M. 93% of the budget is from the TANF Block Grant federal fund, 5% is from the Child Care Development Fund, 1% is from Child Welfare and 1% is from Child Support; The project has been under budget since 2001 and has significantly reduced expenditures over the past 3 years. The following graph contains the estimated vs. actual budget since 2000:



- Since 2001, Personal Services contracts have been reduced by a total of \$729,508.
- Actual annual expenditures for DoIT mainframe services have dropped from \$2 Million in SFY 2001 to \$1.2 Million in SFY 2004, for an annual savings of over \$800,000 per year.
- Match processes that were outsourced to Vality Corp. are now supported in-house. This programming was absorbed by the project team, and saves annual fees of \$112,500. Other savings can be realized because new sources can be added without incurring an additional outsourcing expense.

VI. Future

A. Business Initiatives:

Several goals during 2005 relate to user requests or the impact of the TANF Reauthorization.

- Implementation of new Work Participation county-wide reports is scheduled for the first quarter of 2005;
- The new rules for TANF Reauthorization are expected in March 2005. This will have a significant impact on the project.

B. Technical Initiatives:

The original TANF Data Warehouse was built in 1997 using manual coding techniques. Efficiencies can be gained by leveraging Data Warehouse tools that were purchased during the past 2 years. Over the next year, several goals of the Data Warehouse relate to the expanded use of the tools and related processes. The following goals will be achievable during 2005:

- Completion of the re-write of the Data Warehouse application to DataStage is scheduled for the first quarter of 2005. The new DataStage application on the Windows platform has enabled the project to cut processing time in half;
- Implementing the master client-id for most sources will be phased in during 2005. Programming for the majority of source systems should be completed by the end of 2005. Adding all client information to the master index allows for more automation of year end reporting and will enable a faster turnaround time for special query requests;
- Development of a new summary data mart for Maintenance of Effort (MOE) programs is planned for the 2nd half of 2005. This will enable DFC to locate key information by using their Cognos web reporting tool, and reduce dependence on the technical staff.

C. Mainframe Migration (2 phases):

Ascential QualityStage (phase one)

The Ascential QualityStage software currently resides on the DoIT mainframe. It is probable that the software will perform better on a Windows server instead of the mainframe. This is largely due to issues with the mainframe CPU. Currently the mainframe CPU sometimes spikes to 100% during business hours. Most applications on the mainframe such as the FSSA Client Eligibility, BMV, DOC, INDOT and Revenue, are On-line Transaction Processing (OLTP) applications, and receive the highest priority on the mainframe. Mixing the Data Warehouse batch processes with OLTP processes is not recommended. The Data Warehouse is a 100% a batch application and has a lower priority 24/7. This has a significant impact on the processing time for the monthly deliverables, emergency requests, and quite possibly has an impact on the OLTP processes during the monthly batch runs.

The next logical step for the project is to move the QualityStage function to a Windows server. It is expected that this will cut the monthly processing time considerably and will have a significant ROI. If the migration of QualityStage to a client server environment is permitted, most Data Warehouse processing will be client server based, although DB2 on the mainframe would still be the central database repository.

DB2 Database (possible phase two)

There are issues related to the mainframe DB2 environment that have a direct impact on the Warehouse. Other large DB2 projects such as Peoplesoft and BMV, have migrated or are in the process of migrating to a client server environment. Other FSSA projects are looking at the benefits of alternative platforms. As this migration occurs, the costs for DB2 are re-allocated to the remaining DB2 projects. If other FSSA projects migrate off the mainframe, the costs for the Data Warehouse will rise substantially and the Warehouse will have to move to a new platform also.

The migration of the Data Warehouse DB2 databases to a client server platform can be accomplished easily and in a short timeframe (6 months or less), if that is the FSSA strategic plan.

D. Enterprise Data Warehouse Planning

The TANF Data Warehouse project provides support for FSSA Enterprise Data Warehouse Planning. An ongoing issue within FSSA is related to the massive amount of data collected within agency programs that is stored in proprietary silos. This makes it difficult to track consumers, providers, etc. across these programs. A plan for addressing the integrated reporting requirements within the cabinets was developed recently that would allow each agency to conduct their own business and also be part of the enterprise community sharing data between all sources as needed.

The future of the Enterprise Data warehousing initiatives call for evolving the sound infrastructure of the TANF Data Warehouse toward an agency wide platform with each agency contributing to the growth and support of the whole enterprise plan. It leads to putting warehousing tools in the hands of the agencies with a historical enterprise repository on the backend to organize collect and cleanse data for integrated reporting for the overall agency goals. Many of the details for the future plan can reviewed in depth by reading the Data Warehouse Strategy plan published in October, 2004.

Following is a summary of the strategic future goals of the Enterprise Data Warehouse initiative:

- The first goal of the agency enterprise data warehouse strategy is to establish a unique enterprise client index for all consumers and providers. This provides the ability to utilize all agency data for a specific consumer or provider. This would build on the unique ID used for the TANF Data Warehouse.
- The second goal is the development of a common data structure for all data marts within the enterprise. The objective of the common data structure is to standardize the core data elements across all data marts. This will enable the “apples-to-apples” comparison of all data related to a specific client or provider.

- The third goal is to build data marts from the service cluster data sources. Service clusters are to be defined by FSSA management and for reporting purposes would combine key data from programs that provide similar services. This approach would enable a more encompassing reporting and analysis capability.

The key features of the enterprise warehouse would give FSSA the ability to track clients and providers across state services and allow a unique view of the State's clients never available before. This will aid agencies in focusing services and products supporting each programs mission while protecting the State from fraud and providing duplicate services, therefore saving money.

FSSA or its successor organizations will realize many benefits from the investment in a data warehouse, including but not limited to: increased data quality, consistency, accuracy, and timeliness of information.